

An Ultra-Wideband Schottky Diode Based Envelope Detector for 2.5 Gbps signals - DTU Orbit (09/11/2017)

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In this paper an ultra-wideband (UWB) Schottky diode based envelope detector is reported. The detector consists of an input matching network, a Schottky diode and wideband output filtering network. The output network is tailored to demodulate ultra-wideband amplitude shift keying (ASK) signals up to 2.5 Gbps at 6-9 GHz carrier frequency. The detector uses microstrip and surface-mount device (SMD) components and it is fabricated on a Rogers 6002 substrate. Experimental results show error free transmissions up to 2.5 Gbps at an input power level of -11 dBm. The highest measured conversion gain of the detector is around -12 dB.

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